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KALMERID

AN IMPROVED CATGUT
TO SUPERSEDE IODIZED SUTURES

DAVIS & GECK, INC.

Surgical Ligatures and Sutures Exclusively

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An Improved Catgut to Supersede Iodized Sutures

Kalmerid catgut is the result of two years of experimentation following the article in the Journal of the A.M.A., January 3, 1914, by Doctor Douglas MacFarlan, of Philadelphia, entitled "Notes in the Study of Potassium Mercuric-Iodid". For some time the need had been widely recognized of a substance with which to treat catgut, having the merits of iodin but without its disadvantages. Briefly stated, the most serious of these latter are instability and weakness from exposure to light, deterioration with age, and disintegration when heated; and *in situ* iodized sutures exert but slight and transient antiseptic action. Heretofore, when catgut has been treated with germicidal substances other than iodin various drawbacks have arisen—complete permeation has not been obtained, and the use of the resulting products has been attended with not a little surgical risk.

Kalmerid catgut is first sterilized in cumol at 165° C. (329° F.), ensuring perfect sterility, **and then is thoroughly impregnated with Kalmerid** (potassium mercuric iodid), imparting to it marked germicidal potency.

The absorption time of Kalmerid catgut in no way differs from that of ordinary plain or chromic sutures.

Kalmerid catgut is flexible, does not deteriorate with age or light, and is not only antiseptic but actually exerts a true germicidal action.

An unexpected but gratifying result of this improved method of treating catgut suture material is an increase in tensile strength. The average increase over plain catgut is about 7%, and over iodized catgut approximately 16%.

The advantages of Kalmerid catgut may be briefly summarized as follows—

1. Has a germicidal coefficient ten times greater than that of iodized catgut.
2. Increased tensile strength—*iodin weakens.*
3. Non-toxic in the tissues.
4. Non-irritating.
5. Readily absorbed.
6. Stabile: no deterioration from age or light.
7. The BOILABLE grade of Kalmerid catgut may be boiled or autoclaved—*iodized catgut is destroyed by heating.*

Two kinds of Kalmerid catgut are prepared, to meet the requirements of different surgeons—

BOILABLE KALMERID CATGUT. This grade may be freely boiled or autoclaved for the purpose of sterilizing the exterior of tubes preliminary to operating. To be rendered boilable the catgut is dehydrated, and consequently the flexibility is slightly diminished. The natural pliability may be immediately restored, if desired, by momentarily moistening the sutures with sterile saline solution.

Non-Boilable KALMERID CATGUT. This grade will be found to possess the required degree of flexibility just as it comes from the tubes, as a result of the natural water content of the gut having been restored after completion of its heat sterilization in cumol. As its water content tends to convert the collagen of the gut into gelatin it would be ruined by boiling, but the exterior of the tubes may be sterilized preliminary to operating by first washing with either alcohol or soap and water and then submerging for fifteen minutes or longer in an active germicidal solution, such as Kalmerid 1:500, corrosive sublimate 1:500, or an efficient phenol or cresol germicide.

EXPLANATION OF PLATES

PLATE I. Cross section of a strand of plain Kalmerid catgut, highly magnified.

PLATE II. Another cross section of the same strand, reacted upon by ammonium sulphid to precipitate the mercuric element.

The uniform color throughout the section shows the thorough permeation by the potassium mercuric iodid. Such an equable distribution of the Kalmerid therefore assures a supply of this germicidal substance in the tissues until the suture is entirely absorbed.

The above graphic demonstration may be readily conducted with any strand of Kalmerid catgut by immersing in a solution of ammonium sulphid. The gut will be seen to turn black. Upon examining a cut section under a magnifying glass it will be observed that the color extends uniformly throughout, showing the complete penetration by the Kalmerid as illustrated in plate II.

BIBLIOGRAPHY

MacFarlan, Douglas: Notes in the study of potassium mercuric-iodid. Jour. of the Am. Med. Assn., Jan. 3, 1914. Vol. LXII, p. 17-19.

Watson, Cassius H.: An improved substitute for iodized catgut sutures. Surgery, Gynecology and Obstetrics, January 1916. Vol. XXII, No. 1.

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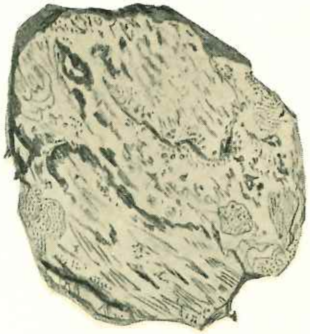

PLATE I

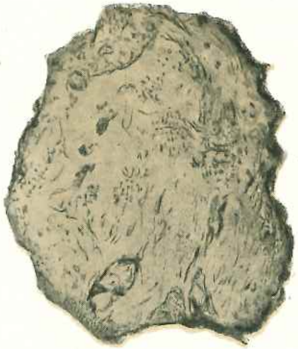

PLATE II